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10/527,444

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Abdelwahab Aroussi

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EXAMINER

SORKIN, DAVID L

ART UNIT

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1797

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/527,444	Applicant(s) AROUSI, ABDELWAHAB	
	Examiner DAVID L. SORKIN	Art Unit 1797	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 April 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 23-50 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 and 23-50 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

1. In claim 30, line three, "tow" should read - - two - -.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1, 23-25 and 28-50 are rejected under 35 U.S.C. 102(b) as being anticipated by Dow (US 1,459,326). Regarding claim 1, Dow discloses a pipe having an inlet end and an outlet end and including a core defined by two or more core pipe sections (an upstream and downstream portion of one or more of 1, 8 and 9) arranged in pairs comprising respective upstream and downstream core pipe sections lying adjacent one another in a fixed spatial arrangement and connected in series between the inlet and outlet end, each upstream and downstream pipe section defining a relative gradual or rapid change in cross-sectional area, the cross sectional area of each upstream core pipe section increasing from an inlet cross sectional area at an upstream end thereof to a relatively larger cross sectional area at a downstream end thereof (see Fig. 1). Regarding claim 23, the cross-sectional areas of the inlet and outlet ends are equal (see Fig. 1). Regarding claim 24, each upstream core pipe section defines a relatively gradual increase in cross-sectional area from the inlet cross-sectional area to

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a maximum cross sectional area at the downstream end thereof and each downstream core pipe section defines a relatively rapid decrease in cross-sectional area from the maximum cross-sectional area to an outlet cross-sectional area at a downstream end thereof (see Fig. 1). Regarding claim 25, each upstream core pipe section defines a relatively gradual increase in cross-sectional area from the inlet cross-sectional area to a maximum cross-sectional area at the downstream end thereof and each downstream core pipe section defines a relatively gradual decrease in cross-sectional area from the maximum cross-sectional area to a outlet cross-sectional area at a downstream end thereof (see Fig. 1). Regarding claim 28, each upstream core pipe section defines a relatively rapid increase in cross-sectional area from the inlet cross-sectional area to a maximum cross-sectional area at the downstream end thereof and each downstream core pipe section defines a relatively rapid decrease in cross-sectional area from the maximum cross-sectional area to an outlet cross-sectional area at a downstream end thereof (see Fig. 1). Regarding claim 29, each upstream pipe section defines a relatively rapid increase in cross-sectional are from the inlet cross-sectional area to a maximum cross-sectional area at the downstream end thereof and the each downstream core pipe section defines a relatively gradual decrease in cross-sectional area from the maximum cross-sectional area to an outlet cross-sectional area at a downstream end thereof (see Fig. 1). Regarding claim 30, the core is defined by four core pipe sections (for example upstream and down stream sections of 8 and 9) and a middle section (15) the four pipe sections being arranged in two pairs (8 and 9), each first and second pair comprising respective upstream and downstream core pipe

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sections, the first pair of core pipe sections being connected in series between the inlet end and the middle section, and the second pair of core pipe sections being connected in series between the middle section and the outlet end, the upstream core pipe section of the first pair of core pipe sections defining a gradual increase in cross-sectional area from the inlet cross-sectional area to a first maximum cross-sectional area at a downstream end thereof, the downstream core pipe section of the first pair of core pipe sections defining a relatively rapid decrease in cross-sectional area from the first maximum cross-sectional area to a middle cross-sectional area, the upstream core pipe section of the second pair of core pipe sections defining a relatively gradual increase in cross-sectional area from the middle cross sectional area to a second maximum cross-sectional area at the downstream end thereof and the downstream core pipe section of the second pair of core pipe sections defining a relatively rapid decrease in cross-sectional area from the second maximum cross-sectional area to an outlet cross-sectional area at the downstream end thereof (see Fig. 1). Regarding claim 31, Dow discloses a pipe having an inlet end and an outlet end and including a core defined by two or more core pipe sections (upstream and downstream sections of 1, 8, or 9 or set thereof) arranged in pairs comprising respective upstream and downstream core pipe sections lying adjacent to one another in a fixed spatial arrangement and connected in series between the inlet end and the outlet end, each upstream and downstream pipe section defining a relatively gradual or rapid change in cross-sectional area, and the cross-sectional area of each upstream core pipe section increasing from an inlet cross-sectional area at an upstream end thereof to a relatively larger cross-sectional area at a

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downstream end thereof; and a flow control system (15 or 24) located at the inlet end.

Regarding claim 32, Dow discloses a pipe having an inlet end and an outlet end and including a core defined by two or more core pipe sections arranged in pairs comprising respective upstream and downstream core pipe sections lying adjacent to one another in fixed spatial arrangement and connected in series between the inlet end and the outlet end, each upstream and downstream pipe section defining a relatively gradual or rapid change in cross-sectional area, the cross-sectional area of each upstream core pipe section increasing from an inlet cross-sectional area at an upstream end thereof to a relatively larger cross-sectional area at a downstream end thereof, the flow

homogenizer further including a flow control system (15 or 24) located at the outlet end.

Regarding claim 33-44, Dow discloses a tapered throat / wedge-shaped ramp/ aerofoil (for example 15) is located at the inlet and outlet ends. Regarding claims 45-50, a jet is located at an end (see Fig. 1).

4. Claims 1, 23, 25 and 28 and 31-50 are rejected under 35 U.S.C. 102(b) as being anticipated by Gao et al. (US 6,395,175). Regarding claim 1, Gao discloses a pipe having an inlet end and an outlet end and including a core defined by two or more core pipe sections (110, 112) arranged in pairs comprising respective upstream and downstream core pipe sections lying adjacent one another in a fixed spatial arrangement and connected in series between the inlet and outlet end, each upstream and downstream pipe section defining a relative gradual or rapid change in cross-sectional area, the cross sectional area of each upstream core pipe section increasing from an inlet cross sectional area at an upstream end thereof to a relatively larger cross

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sectional area at a downstream end thereof (see Fig. 2). Regarding claim 23, the cross-sectional areas of the inlet and outlet ends are equal (see Fig. 2). Regarding claim 25, each upstream core pipe section defines a relatively gradual increase in cross-sectional area from the inlet cross-sectional area to a maximum cross-sectional area at the downstream end thereof and each downstream core pipe section defines a relatively gradual decrease in cross-sectional area from the maximum cross-sectional area to a outlet cross-sectional area at a downstream end thereof (see Fig. 1). Regarding claim 28, each upstream core pipe section defines a relatively rapid increase in cross-sectional area from the inlet cross-sectional area to a maximum cross-sectional area at the downstream end thereof and each downstream core pipe section defines a relatively rapid decrease in cross-sectional area from the maximum cross-sectional area to an outlet cross-sectional area at a downstream end thereof (see Fig. 1). Regarding claim 31, Goa discloses a pipe having an inlet end and an outlet end and including a core defined by two or more core pipe sections (110,112) arranged in pairs comprising respective upstream and downstream core pipe sections lying adjacent to one another in a fixed spatial arrangement and connected in series between the inlet end and the outlet end, each upstream and downstream pipe section defining a relatively gradual or rapid change in cross-sectional area, and the cross-sectional area of each upstream core pipe section increasing from an inlet cross-sectional area at an upstream end thereof to a relatively larger cross-sectional area at a downstream end thereof; and a flow control system (110,112) located at the inlet end. Regarding claim 32, Goa discloses a pipe having an inlet end and an outlet end and including a core defined by

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two or more core pipe sections (110,112) arranged in pairs comprising respective upstream and downstream core pipe sections lying adjacent to one another in fixed spatial arrangement and connected in series between the inlet end and the outlet end, each upstream and downstream pipe section defining a relatively gradual or rapid change in cross-sectional area, the cross-sectional area of each upstream core pipe section increasing from an inlet cross-sectional area at an upstream end thereof to a relatively larger cross-sectional area at a downstream end thereof, the flow homogenizer further including a flow control system (110,112) located at the outlet end. Regarding claim 33-44, Goa discloses a tapered throat / wedge-shaped ramp/ aerofoil (110,112) is located at the inlet and outlet ends. Regarding claims 45-50, a jet is located at an end (see Fig. 2).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 26 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dow (US 1,459,326). Numerical values for the recited size ratios are not provided by Dow. See *Gardner v. TEC Systems, Inc.*, 725 F.2d 1338, 220 USPQ 777 (Fed. Cir. 1984), cert. denied, 469 U.S. 830, 225 USPQ 232 (1984) concerning the obviousness of selecting relative dimensions.

7. Claims 26 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Goa et al. (US 6,395,175). Numerical values for the recited size ratios are not provided by Goa. See *Gardner v. TEC Systems, Inc.*, 725 F.2d 1338, 220 USPQ 777 (Fed. Cir. 1984), cert. denied, 469 U.S. 830, 225 USPQ 232 (1984) concerning the obviousness of selecting relative dimensions.

Response to Arguments

8. Applicant's arguments are moot in view of the new grounds of rejection.

Conclusion

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DAVID L. SORKIN whose telephone number is (571)272-1148. The examiner can normally be reached on Mon.-Fri. 7:30AM-4:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Walter D. Griffin can be reached on 571-272-1447. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/DAVID L. SORKIN/
Primary Examiner, Art Unit 1797